



IFW16

RAW SEQUENCE LISTING

DATE: 08/23/2004

PATENT APPLICATION: US/09/554,860B

TIME: 16:03:49

Input Set : A:\US seqlist2.txt

Output Set: N:\CRF4\08232004\I554860B.raw

4 <110> APPLICANT: Bruck, Claudine
 5 Bollen, Alex
 6 Jacobs, Paul
 7 Massaer, Marc

9 <120> TITLE OF INVENTION: Recombinant Allergen with Reduced
 10 Enzymatic Activity

12 <130> FILE REFERENCE: B45122

14 <140> CURRENT APPLICATION NUMBER: 09/554,860B

15 <141> CURRENT FILING DATE: 2000-05-19

17 <150> PRIOR APPLICATION NUMBER: PCT/EP98/07521

18 <151> PRIOR FILING DATE: 1998-11-16

20 <150> PRIOR APPLICATION NUMBER: GB 9724531.0

21 <151> PRIOR FILING DATE: 1997-11-19

23 <160> NUMBER OF SEQ ID NOS: 30

25 <170> SOFTWARE: FastSEQ for Windows Version 4.0

27 <210> SEQ ID NO: 1

28 <211> LENGTH: 963

29 <212> TYPE: DNA

30 <213> ORGANISM: Artificial Sequence

32 <220> FEATURE:

33 <223> OTHER INFORMATION: Mutant of DerP1

35 <400> SEQUENCE: 1

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 37 tcatcgatca aaacttttga agaatacaaa aaagccttca acaaaagtta tgctaccttc 120
 38 gaagatgaag aagctgcccg taaaaacttt ttggaatcag taaaatatgt tcaatcaaat 180
 39 ggaggtgcca tcaaccattt gtccgatttg tcgttggatg aattcaaaaa ccgatttttg 240
 40 atgagtgcag aagcttttga acacctcaaa actcaattcg atttgaatgc tgaaactaac 300
 41 gcctgcagta tcaatggaaa tgctccagct gaaatcgatt tgcgacaaat gcgaactgtc 360
 42 actcccatte gtatgcaagg aggctgtggg tcagcttggg ctttctctgg tgttgccgca 420
 43 actgaatcag cttatttggc ttaccgtaat caatcattgg atcttgetga acaagaatta 480
 44 gtcgattgtg cttcccaaca cgggtgtcat ggtgatacca ttccacgtgg tattgaatac 540
 45 atccaacata atggtgtcgt ccaagaaagc tactatcgat acgttgcacg agaacaatca 600
 46 tgccgacgac caaatgcaca acgtttcggt atctcaaaact attgccaat ttaccaccca 660
 47 aatgtaaaca aaattcgtga agctttggct caaaccacaa gcgctattgc cgtcattatt 720
 48 ggcataaag atttagacgc attccgtcat tatgatggcc gaacaatcat tcaacgcgat 780
 49 aatggttacc aaccaaacta tgctgctgtc aacattgttg gttacagtaa cgcacaagg 840
 50 gtcgattatt ggatcgtagc aaacagtggg gataccaatt ggggtgataa tgggtacgg 900
 51 tattttgctg ccaacatcga tttgatgatg attgaagaat atccatatgt tgtcatttc 960
 52 taa 963

54 <210> SEQ ID NO: 2

55 <211> LENGTH: 320

56 <212> TYPE: PRT

57 <213> ORGANISM: Artificial Sequence



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59 <220> FEATURE:

60 <223> OTHER INFORMATION: Mutant of DerP1

62 <400> SEQUENCE: 2

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63 Met Lys Ile Val Leu Ala Ile Ala Ser Leu Leu Ala Leu Ser Ala Val
64 1 5 10 15
65 Tyr Ala Arg Pro Ser Ser Ile Lys Thr Phe Glu Glu Tyr Lys Lys Ala
66 20 25 30
67 Phe Asn Lys Ser Tyr Ala Thr Phe Glu Asp Glu Glu Ala Ala Arg Lys
68 35 40 45
69 Asn Phe Leu Glu Ser Val Lys Tyr Val Gln Ser Asn Gly Gly Ala Ile
70 50 55 60
71 Asn His Leu Ser Asp Leu Ser Leu Asp Glu Phe Lys Asn Arg Phe Leu
72 65 70 75 80
73 Met Ser Ala Glu Ala Phe Glu His Leu Lys Thr Gln Phe Asp Leu Asn
74 85 90 95
75 Ala Glu Thr Asn Ala Cys Ser Ile Asn Gly Asn Ala Pro Ala Glu Ile
76 100 105 110
77 Asp Leu Arg Gln Met Arg Thr Val Thr Pro Ile Arg Met Gln Gly Gly
78 115 120 125
79 Cys Gly Ser Ala Trp Ala Phe Ser Gly Val Ala Ala Thr Glu Ser Ala
80 130 135 140
81 Tyr Leu Ala Tyr Arg Asn Gln Ser Leu Asp Leu Ala Glu Gln Glu Leu
82 145 150 155 160
83 Val Asp Cys Ala Ser Gln His Gly Cys His Gly Asp Thr Ile Pro Arg
84 165 170 175
85 Gly Ile Glu Tyr Ile Gln His Asn Gly Val Val Gln Glu Ser Tyr Tyr
86 180 185 190
87 Arg Tyr Val Ala Arg Glu Gln Ser Cys Arg Arg Pro Asn Ala Gln Arg
88 195 200 205
89 Phe Gly Ile Ser Asn Tyr Cys Gln Ile Tyr Pro Pro Asn Val Asn Lys
90 210 215 220
91 Ile Arg Glu Ala Leu Ala Gln Thr His Ser Ala Ile Ala Val Ile Ile
92 225 230 235 240
93 Gly Ile Lys Asp Leu Asp Ala Phe Arg His Tyr Asp Gly Arg Thr Ile
94 245 250 255
95 Ile Gln Arg Asp Asn Gly Tyr Gln Pro Asn Tyr Ala Ala Val Asn Ile
96 260 265 270
97 Val Gly Tyr Ser Asn Ala Gln Gly Val Asp Tyr Trp Ile Val Arg Asn
98 275 280 285
99 Ser Trp Asp Thr Asn Trp Gly Asp Asn Gly Tyr Gly Tyr Phe Ala Ala
100 290 295 300
101 Asn Ile Asp Leu Met Met Ile Glu Glu Tyr Pro Tyr Val Val Ile Leu
102 305 310 315 320

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105 <210> SEQ ID NO: 3

106 <211> LENGTH: 951

107 <212> TYPE: DNA

108 <213> ORGANISM: Artificial Sequence

110 <220> FEATURE:

111 <223> OTHER INFORMATION: Mutant of DerP1

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113 <400> SEQUENCE: 3

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114 atgaaaattg ttttggccat cgcctcattg ttggcattga gcgctgttta tgctcgtcca 60
115 tcatcgatca aaacttttga agaatacaaa aaagccttca acaaaagtta tgctaccttc 120
116 gaagatgaag aagctgcccg taaaaacttt ttggaatcag taaaatatgt tcaatcaaat 180
117 ggaggtgcc aaccaattt gtccgatttg tcgttggatg aattcaaaaa ccgatttttg 240
118 atgagtgcag aagcttttga acacctcaaa actcaattcg atttgaacgc ctgcagtatc 300
119 aatggaaatg ctccagctga aatcgatttg cgacaaatgc gaactgtcac tcccattcgt 360
120 atgcaaggag gctgtggttc atgttgggct ttctctgggt ttgccgcaac tgaatcagct 420
121 tatttggctt accgtaatac atcattggat cttgctgaac aagaattagt cgattgtgct 480
122 tcccaacacg gttgtcatgg tgataccatt ccacgtggta ttgaatacat ccaacataat 540
123 ggtgtcgtcc aagaaagcta ctatcgatac gttgcacgag aacaatcatg ccgacgacca 600
124 aatgcacaac gtttcggtat ctcaaactat tgccaaattt acccaccaaa tgtaaacaaa 660
125 attcgtgaag ctttggctca aaccacacgc gctattgccg tcattattgg catcaaagat 720
126 ttagacgcat tccgtcatta tgatggccga acaatcattc aacgcgataa tggttaccaa 780
127 ccaaactatc acgctgtcaa cattgttggg tacagtaacg cacaaggtgt cgattattgg 840
128 atcgtacgaa acagtgggga taccaattgg ggtgataatg gttacgggta ttttgcgtcc 900
129 aacatcgatt tgatgatgat tgaagaatat ccatatgttg tcattctcta a 951

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131 <210> SEQ ID NO: 4

132 <211> LENGTH: 316

133 <212> TYPE: PRT

134 <213> ORGANISM: Artificial Sequence

136 <220> FEATURE:

137 <223> OTHER INFORMATION: Mutant of DerP1

139 <400> SEQUENCE: 4

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140 Met Lys Ile Val Leu Ala Ile Ala Ser Leu Leu Ala Leu Ser Ala Val
141 1 5 10 15
142 Tyr Ala Arg Pro Ser Ser Ile Lys Thr Phe Glu Glu Tyr Lys Lys Ala
143 20 25 30
144 Phe Asn Lys Ser Tyr Ala Thr Phe Glu Asp Glu Glu Ala Ala Arg Lys
145 35 40 45
146 Asn Phe Leu Glu Ser Val Lys Tyr Val Gln Ser Asn Gly Gly Ala Ile
147 50 55 60
148 Asn His Leu Ser Asp Leu Ser Leu Asp Glu Phe Lys Asn Arg Phe Leu
149 65 70 75 80
150 Met Ser Ala Glu Ala Phe Glu His Leu Lys Thr Gln Phe Asp Leu Asn
151 85 90 95
152 Ala Cys Ser Ile Asn Gly Asn Ala Pro Ala Glu Ile Asp Leu Arg Gln
153 100 105 110
154 Met Arg Thr Val Thr Pro Ile Arg Met Gln Gly Gly Cys Gly Ser Cys
155 115 120 125
156 Trp Ala Phe Ser Gly Val Ala Ala Thr Glu Ser Ala Tyr Leu Ala Tyr
157 130 135 140
158 Arg Asn Gln Ser Leu Asp Leu Ala Glu Gln Glu Leu Val Asp Cys Ala
159 145 150 155 160
161 Ser Gln His Gly Cys His Gly Asp Thr Ile Pro Arg Gly Ile Glu Tyr
162 165 170 175
163 Ile Gln His Asn Gly Val Val Gln Glu Ser Tyr Tyr Arg Tyr Val Ala
164 180 185 190
165 Arg Glu Gln Ser Cys Arg Arg Pro Asn Ala Gln Arg Phe Gly Ile Ser

```

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166          195          200          205
167 Asn Tyr Cys Gln Ile Tyr Pro Pro Asn Val Asn Lys Ile Arg Glu Ala
168          210          215          220
169 Leu Ala Gln Thr His Ser Ala Ile Ala Val Ile Ile Gly Ile Lys Asp
170 225          230          235          240
172 Leu Asp Ala Phe Arg His Tyr Asp Gly Arg Thr Ile Ile Gln Arg Asp
173          245          250          255
174 Asn Gly Tyr Gln Pro Asn Tyr His Ala Val Asn Ile Val Gly Tyr Ser
175          260          265          270
176 Asn Ala Gln Gly Val Asp Tyr Trp Ile Val Arg Asn Ser Trp Asp Thr
177          275          280          285
178 Asn Trp Gly Asp Asn Gly Tyr Gly Tyr Phe Ala Ala Asn Ile Asp Leu
179          290          295          300
180 Met Met Ile Glu Glu Tyr Pro Tyr Val Val Ile Leu
181 305          310          315
184 <210> SEQ ID NO: 5
185 <211> LENGTH: 963
186 <212> TYPE: DNA
187 <213> ORGANISM: Artificial Sequence
189 <220> FEATURE:
190 <223> OTHER INFORMATION: Mutant of DerP1
192 <400> SEQUENCE: 5
193 atgaaaattg ttttggccat cgcctcattg ttggcattga gcgctgttta tgctcgcca 60
194 tcatcgatca aaacttttga agaatacaaaa aaagccttca acaaaagtta tgctaccttc 120
195 gaagatgaag aagctgccccg taaaaacttt ttggaatcag taaaatatgt tcaatcaaat 180
196 ggaggtgcc acaaccattt gtccgatttg tcgttggatg aattcaaaaa ccgatttttg 240
197 atgagtgcag aagcttttga acacctcaaa actcaattcg atttgaatgc tgaaactaac 300
198 gcctgcagta tcaatggaaa tgctccagct gaaatcgatt tgcgacaaat gcgaactgtc 360
199 actcccatc gtatgcaagg aggctgtggt tcacgatggg ctttctctgg tgttgccgca 420
200 actgaatcag cttatttggc ttaccgtaat caatcattgg atcttgctga acaagaatta 480
201 gtcgattgtg cttcccaaca cggttgtcat ggtgatacca ttccacgtgg tattgaatac 540
202 atccaacata atggtgtcgt ccaagaaagc tactatcgat acgttgacag agaacaatca 600
203 tgccgacgac caaatgcaca acgtttcggt atctcaaact attgccaaat ttaccaccca 660
204 aatgtaaaca aaattcgtga agctttggct caaaccaca gcgctattgc cgtcattatt 720
205 ggcacaaag atttagacgc attccgtcat tatgatggcc gaacaatcat tcaacgcgat 780
206 aatggttacc aaccaaacta tgctgctgtc aacattgttg gttacagtaa cgacaagggt 840
207 gtcgattatt ggatcgtagc aaacagttgg gataccaatt ggggtgataa tggttacgggt 900
208 tattttgctg ccaacatcga ttgatgatg attgaagaat atccatatgt tgtcattctc 960
209 taa
211 <210> SEQ ID NO: 6
212 <211> LENGTH: 320
213 <212> TYPE: PRT
214 <213> ORGANISM: Artificial Sequence
216 <220> FEATURE:
217 <223> OTHER INFORMATION: Mutant of DerP1
219 <400> SEQUENCE: 6
220 Met Lys Ile Val Leu Ala Ile Ala Ser Leu Leu Ala Leu Ser Ala Val
221 1          5          10          15
222 Tyr Ala Arg Pro Ser Ser Ile Lys Thr Phe Glu Glu Tyr Lys Lys Ala

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223           20           25           30
224 Phe Asn Lys Ser Tyr Ala Thr Phe Glu Asp Glu Glu Ala Ala Arg Lys
225           35           40           45
226 Asn Phe Leu Glu Ser Val Lys Tyr Val Gln Ser Asn Gly Gly Ala Ile
227           50           55           60
229 Asn His Leu Ser Asp Leu Ser Leu Asp Glu Phe Lys Asn Arg Phe Leu
230 65           70           75           80
231 Met Ser Ala Glu Ala Phe Glu His Leu Lys Thr Gln Phe Asp Leu Asn
232           85           90           95
233 Ala Glu Thr Asn Ala Cys Ser Ile Asn Gly Asn Ala Pro Ala Glu Ile
234           100          105          110
235 Asp Leu Arg Gln Met Arg Thr Val Thr Pro Ile Arg Met Gln Gly Gly
236           115          120          125
237 Cys Gly Ser Ala Trp Ala Phe Ser Gly Val Ala Ala Thr Glu Ser Ala
238           130          135          140
239 Tyr Leu Ala Tyr Arg Asn Gln Ser Leu Asp Leu Ala Glu Gln Glu Leu
240 145          150          155          160
241 Val Asp Cys Ala Ser Gln His Gly Cys His Gly Asp Thr Ile Pro Arg
242           165          170          175
243 Gly Ile Glu Tyr Ile Gln His Asn Gly Val Val Gln Glu Ser Tyr Tyr
244           180          185          190
245 Arg Tyr Val Ala Arg Glu Gln Ser Cys Arg Arg Pro Asn Ala Gln Arg
246           195          200          205
247 Phe Gly Ile Ser Asn Tyr Cys Gln Ile Tyr Pro Pro Asn Val Asn Lys
248           210          215          220
249 Ile Arg Glu Ala Leu Ala Gln Thr His Ser Ala Ile Ala Val Ile Ile
250 225          230          235          240
251 Gly Ile Lys Asp Leu Asp Ala Phe Arg His Tyr Asp Gly Arg Thr Ile
252           245          250          255
253 Ile Gln Arg Asp Asn Gly Tyr Gln Pro Asn Tyr Ala Ala Val Asn Ile
254           260          265          270
255 Val Gly Tyr Ser Asn Ala Gln Gly Val Asp Tyr Trp Ile Val Arg Asn
256           275          280          285
257 Ser Trp Asp Thr Asn Trp Gly Asp Asn Gly Tyr Gly Tyr Phe Ala Ala
258           290          295          300
259 Asn Ile Asp Leu Met Met Ile Glu Glu Tyr Pro Tyr Val Val Ile Leu
260 305          310          315          320
263 <210> SEQ ID NO: 7
264 <211> LENGTH: 339
265 <212> TYPE: PRT
266 <213> ORGANISM: Artificial Sequence
268 <220> FEATURE:
269 <223> OTHER INFORMATION: Mutant of DerP1
271 <400> SEQUENCE: 7
272 Met Leu Leu Val Asn Gln Ser His Gln Gly Phe Asn Lys Glu His Thr
273 1           5           10          15
274 Ser Lys Met Val Ser Ala Ile Val Leu Tyr Val Leu Leu Ala Ala Ala
275           20           25           30
276 Ala His Ser Ala Phe Ala Ala Asp Pro Arg Pro Ser Ser Ile Lys Thr

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VERIFICATION SUMMARY

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